SL-II MC-1053/1
Time: 01:58 CDT, 23:06:58 GMT
6/16/73

PAO This is Skylab Control at six hours 59 minutes Greenwich mean time. We're a couple of minutes away from acquisition at Madrid. We'll be sending a wake-up call to the crew at acquisition. The crew now on the schedule of wake-up at seven hours Greenwich mean time or 2:00 a.m. central daylight time, and go-to-sleep time 6:00 p.m. central daylight time. This schedule will prevail until the night before re-entry. The primary activity today will be a re-entry simulation for the crew and the flight controllers in the Mission Control Center. We'll stand by now for the first communications of the day at Madrid.

CC Skylab, Houston. Good morning.

SC Boy, you're Johnny on the spot aren't you?

CC Well, we just happened to have a site here with about nine minutes to go at Madrid.

SC I expected so. (garble)

SC Hey, Hank, you got somebody sitting down there that doesn't have anything to do for a minute?

CC What you got in mind?

SC How many revs have we gone and how many miles?

CC Skylab, Houston, all your pads are onboard now and we're working on - we don't have a FIDO here. I guess we're trying to figure out how many revs it is, but the workshop is on rev 471, but y'all haven't done that many.

SC Yeah, Paul says he can sure tell who's important. I think we're on about 320 something or 330.

CC That's the ball park figure.

SC I keep losing track, out during the night time.

CC You haven't been putting ticks on the wall, counting them?

SC Yeah, but we've run out of wall space in my bedroom.

SC Hey, Hank, while I got you real quick we never did put the easy questions or B channel.

CC Oh, you didn't do that? Okay.

CC Are you going to get to that sometime today?

SC Yeah, well let me answer a couple of them.

SC Question number two about EREP swabs. We got EREP swabs coming out our tape recorder (garble)

CC You've got a big squeal there. What did you say?

SC I say, question number two which was how about the inventory on EREP tape recording cleaning swabs. We've got those things coming out our ears. Those guys don't

need to bring any up on their film. Three.

CC Okay, copy.

SC And question number three, the SPT does have all that data in his log book and he will return it.

CC Copy.

SC Number four, and should the redesign of the waste management compartment foot restraint include acceptance of triangles, mushrooms and bare feet. If they didn't use a different cloth on the existing ones right now they will accept all of those anyhow. And it's just that the cloth - it's that cloth that they're using - it's plastic and it just doesn't allow you to open it up or close it down depending on what you're wearing on your feet at the time. Then ought to be softer and longer.

CC Roger.

SC We do recommend you look for something straight for the rotating litter chair. What we're using is just a plain ole strap up here and it does the job but it's not too suitable. And on SO82A, did the flare execute flag indicates flare 82 is operated in the flare mode. To the best of PLT's knowledge it did.

END OF TAPE

SL-II MC-1054/1
Time: 02:11 CDT 23:07:11 GMT
6/16/73

CDR And on SO82A did the flare execute flag indicate flare 82 is operated in the FLARE MODE. To the best of the PLT's knowledge it did. Got number 7, well question number 7, I'll have to put on tape. And CDR, 8, what is the status of 553. Wheel 1 is completely done on 553. Wheel 2 has the three balls that are not - that do not come off done, and two that do come off done. And I'm ready to return that for them to examine the whole wheel.

CC Roger.

CDR Nine. I did answer the question. Don't forget the workshop was in a screwy attitude when we rendezvoued with an EGIL special or something and I don't think it's a - I think you can use the ATM solar wing as a means to range on but I can't say what they look like, cause it wasn't in the same attitude it's gonna be in for SL-3.

CC Roger, and we're just about to LOS now, Pete. Honeysuckle at 46.

CDR Okay.

PAO This is Skylab Control at 7 hours 11 minutes Greenwich mean time. Madrid has had loss of signal of Skylab. Next station to acquire will be Honeysuckle in Australia in approximately 35 minutes. During this wakeup pass the crew asked the number of revolutions and their total milage to date. Here on the ground some of the flight controllers are coming up with those numbers that will probably be passed up to the crew on the next pass over Honeysuckle. The revolution number 471, which appears on the map, is revolution number for SL-1, the Skylab workshop. During the latter part of the pass over Madrid, Skylab Commander Pete Conrad was answering a series of questions which had been sent up to the crew on the teleprinter in a supplement to yesterday's execute package. We'll come back up just prior to acquisition at Honeysuckle. At 7 hours 12 minutes, Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1055/1
Time: 02:44 CDT, 23:07:44 GMT
6/16/73

PAO This is Skylab Control at seven hours 45 minutes Greenwich mean time. Skylab approaching acquisition at the Honeysuckle, Australia tracking station.

CC Skylab, Houston through Honeysuckle six minutes.

SC Good morning, Hank. Would you care to join us in a cup of coffee?

CC Well, I wish I could. I'm sipping on a Pepsi Cola right now. Hey, you know the other day, I guess it was several days ago, you reported on - I think it was your pointing went off about a half of a solar radius and so you had to enable the MPC and drive the wedge back. We've been looking into that and we think we've got the answer here. The fine Sun sensor wedges when they're under the ATM DC control are rate limited and we think if you had waited they would have eventually have caught up with you.

SC Well, Hank, it was a pretty abrupt thing. It's only happened a couple of times. It darn near jumps off a half a radius.

SC That's right.

SC The other guys are saying that's right, indicating it happened to them also.

CC Well, it may have been a little - maybe we misunderstood the problem. It sounds like it's a little different than we thought.

SC I think so.

SC Also, Henry, for status. We've put us up a portable fan again yesterday to try to keep our air to gain a little bit. That thing does more good than I gave it credit for. We've actually come down a degree according to our - on one yesterday morning.

CC Okay, have you got that in the dome hatch again?

SC That's right. In the dome hatch, blowing workshop air on the A station and left.

CC Roger.

CC While you're sipping your coffee there, I guess I could give you the SAP update. We had several flares, all small, over the last several hours. In active region 27 there was a sub-faint, no X-rays, and in active region 31 we've had no activity since yesterday's bright M4 flare. Active region 41 has had two sub-normals without X-rays, so all in all I guess it's all pretty quiet.

SC Okay, we're waiting.

SC They're reported on B channel. Saw one at 35 last night.

CC At what time?

SL-II MC-1055/2
Time: 02:44 CDT, 23:07:44 GMT
6/16/73

SC If I recall, it was about 22:03. Was a small one, there was a little X-ray, a little (garble) associated with it, but it did not trigger the flare alarm.

CC Roger, copy. And we're about 30 seconds from LOS. Hawaii will be coming up at 08:00 with a recorder dump.

PAO This is Skylab Control at seven hours 53 minutes Greenwich mean time. Honeysuckle has had loss of signal with Skylab. The next station to acquire will be Hawaii in about 13-1/2 minutes. The crew's having breakfast, still about another hour left in their post-sleep activities. At the end of that time Commander Pete Conrad will activate the S073 experiment. That's the Gegenschein zodiacal light experiment. That's installed in the scientific airlock. And at nine hours 20 minutes G.m.t., the Pilot Paul Weitz is scheduled for an M131 run, the human vestibular function experiment. This will be the motion sensitivity phase of that experiment and they will rotate the litter chair as high as 30 revolutions per minute, which would be a new high for RPM's on the chair. Paul Weitz will be the subject with the Science Pilot Joe Kerwin as the observer. There will be a brief Apollo telescope mount run by the Science Pilot, Kerwin, following M131. All together today, one hour 58 minutes of Apollo teleacope mount operation is scheduled. And the entry simulations - the - are due to start about 11 hours Greenwich mean time. We're 11 minutes away from Hawaii acquisition. We'll come back up just prior to that pass. At seven hours 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1056/1
Time: 03:06 CDT 23:08:06 GMT
6/16/73

PAO — This is Skylab Control at 8 hours 6 minutes Greenwich mean time. Skylab is within range of the Hawaii station. We'll stand by for conversation there.

PAO — The spacecraft communicator is astronaut Henry Hartsfield. Flight director on this silver team is Neil Hutchinson.

CC — Skylab, Houston through Hawaii, 7 minutes.

SPT — Roger.

CC — Hey, Joe, we looked at our data here, and Hawaii picked up a subnormal flare in active region 43 last night at 22:02. It peaked at 22:05 and they didn't get any X-Rays.

SPT — I'll check my coordinates, Hank.

CC — Skylab, Houston, we're about 30 seconds from LOS. Goldstone at 18.

PAO — This is Skylab Control at 8 hours 15 minutes Greenwich mean time. We've had loss of signal at Hawaii. And Goldstone will acquire in about 2 minutes. We'll stay up during this brief LOS.

END OF TAPE

SL-11 MC-1057/1
Time: 03:16 CDT 23:08:16 GMT
6/16/73

CC Skylab, Houston through Goldstone, 7 minutes.

PAO This is Skylab Control 8 hours 18 minutes Greenwich mean time, and Goldstone does have acquisition now.

CC Skylab, Houston. One minute to LOS. Bermuda at 29.

SPT Roger, Houston. I caught that flare in active region 35, because it was an unfamiliar area and it looked to have about the right coordinates. 43 wasn't even on the pad at the time. Nor is it on this morning. I think I remember hearing about it, but, I don't know it's coordinates. So it could have been 43. If it's down in that region.

CC Okay.

CC Skylab, Houston through Bermuda 6-1/2 minutes.

END OF TAPE

SL-II MC-1058/1
Time: 03:29 CDT, 23:08:29 GMT
6/16/73

CC SPT, Houston. We just checked up on that active region 43. It's real close to 35. It's about best we can guess about 150.3 and 35 is 120.5.

SPT Okay, I'm sure that wasn't (garble), Hank.

SPT Thank you.

CC Skylab, Houston. One minute to LOS, Canaries at 36.

PAO This is Skylab Control at eight hours 37 minutes Greenwich mean time. Skylab is now bridging a small gap between coverage of the Bermuda station and the Canary Island station. Canaries will have acquisition within a few seconds. We'll stand by for that pass.

CC Skylab, Houston through Canaries 9 and 1/2 minutes.

SPT Roger.

PAO This is Skylab Control. Flight Director, Chuck Lewis and his bronze team of flight controllers are preparing to relieve Flight Director Neil Hutchinson and the silver team. Neil Hutchinson has scheduled his Change-of-shift briefing for 4:15 a.m. central daylight time in the news center briefing room at the Johnson Space Center. Change-of-shift briefing scheduled for 4:15 a.m. central daylight time. The spacecraft communicator on the bronze team will be Astronaut Dick Truly. Flight Director Phil Shaffer and the purple team of flight controllers will also be in the control center handling the entry simulations for the command and service module. Purple team specializes in the command and service modules and will be the prime team during entry. At four and a half minutes left in this pass at Canaries. We'll stand by.

END OF TAPE

SL-II MC-1059/1
Time: 03:45 CDT 23:08:45 GMT
6/16/73

PAO This is Skylab Control 8 hours 48 minutes Greenwich mean time. Canary station has had loss of signal, however Ascension will pick up Skylab in about 30 seconds for a 3 minute acquisition. As Skylab just skirts the edge of the Ascension range. A low - very low elevation angle, 1.3 degrees. We'll stand by for this short Ascension pass.

PAO This is Skylab Control at 8 hours 52 minutes, Greenwich mean time. Ascension has loss of signal. The next station to acquire Skylab will be Honeysuckle in 30 and 1/2 minutes. We'll come back up just before acquisition. At 8 hours 52 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1060/1
Time: 04:21 CDT 23:09:21 GMT
6/16/73

PAO This is Skylab Control, 9 hours 21 minutes Greenwich mean time. Skylab coming up on acquisition at Honeysuckle.

CC Skylab, Houston. AOS at Honeysuckle for 8 minutes.

CDR Roger.

PAO This is Skylab Control. Flight Director Neil Hutchinson has left the Control Center in route to the JSC News Center for the change of shift briefing. That briefing should start shortly after loss of signal at Honeysuckle, in about 3 minutes.

PAO This is Skylab Control at 9 hours 31 minutes Greenwich mean time. Honeysuckle has had loss of signal. Hawaii will acquire in about 12 minutes. We'll take the line down now for the change of shift news conference with Flight Director Neil Hutchinson. At 9 hours 32 minutes, this is Skylab Control.

END OF TAPE

PAO This is Skylab Control at 14 hours 1 minute Greenwich mean time. We're about a minute and a half away from acquisition at Goldstone. We've acquired 40 seconds in tape at the Hawaii station. We'll play that now and go into Goldstone live.

CC Skylab, Houston. We're AOS Hawaii for the next 9 minutes.

CC Skylab, Houston. We're about 20 seconds from LOS. We're going to see you at Goldstone at 9:56 and be advised that this stateside pass we'll be cranking up the entry sim. I will have some final pad updates for you. There'll be - and per the entry message, I guess you're going to copy them on sheets that you've taken out of the SWS updates book. There'll be two P30 pads and an entry pad.

CDR You mean the pads you're going to send us are the ones I already have?

CC These are updates to the pads you already have, Pete.

PAO This is Skylab Control, that's the end of the tape. We're a few seconds away from AOS at Goldstone we'll stand by for this stateside pass.

CC Skylab, Houston. We're AOS Goldstone for 6 minutes.

PLT Say, Dick, I got an observation for you. I'm not sure who's interested in it, but can't find anybody else to leave (garble) for him to pass on to Paul (garble). Will you please?

CC Go ahead.

PLT I was looking around to see if I could see Seattle. We got thunder right before we came up on it. I was watching sunrise and in the airglow - at the top of the airglow at sunrise, I saw this, what they call a nomilus or what I understand to be an anomilis occasional white line in the layers, the different color layers. And right at the very top of the airglow I seen the white line before, only this time it had form to it, just like you're looking at clouds, like the sun was shining on clouds. It was very strange. I've never seen it before. It's always been a line before and this time as I say, it had form. like there were clouds in there, much (garble) clouds, I think.

CC Roger, Paul. Thank you much and I'll pass it on.

PLT Thank you.

CC And Skylab, Houston. I do have updates for the pads that we sent you on the teleprinter. The updates I have are for the shape burn and the retrofire burn, which are P30 pads and also a final update to the Entry Pad that

you go up on the teleprinter. I'd like to read them up when you've got time to copy.

SC Wait 1.

CC Roger.

CDR Okay. I'm ready for the P30s.

CC Roger. This is the shape burn. NOUN 33, 016, 55, 5750 minus 2610 plus 0000 plus 0655, 359, 193, 000, 2543, 0011, 3080. It's a 14 second, 4 quads, the NOUN 47, weight 28238, pitch trim plus 057, yaw trim minus 011. Go ahead.

CDR Okay. That was the P30 shaping, NOUN 33, 016, 55, 5750 minus 2610 plus 0000 plus 0655, 359, 193, 000, 2543, 0011, 3080. 14 seconds, 4 quad 2823, pitch plus 057, yaw minus 011.

CC That's affirmative. Now, I've got one update for the Retrofire Burn.

CDR Go ahead.

CC NOUN 33, 020, 00, 0170, minus 1848, plus 0000, plus 0453, 000, 180, 000, 1750, 0007, 0390. This is 14 seconds, 4 quads also, weight 27491, the trims, plus 058, minus 023.

END OF TAPE

CC Minus 0 2 3 and stand by 1 on the readback. Pete we're about 30 seconds from LOS here at Goldstone. We're going to have a short break and we're going to see you in Bermuda and in about 2 or 3 minutes I'll pick you up and get the readback there. There's one remark on that second pad and that is the command module RCS capture is a perigee altitude of 45 nautical miles. I'll see you at Bermuda. And we'll have state vectors ready to uplink at Bermuda.

CC Skylab, Houston we're AOS at Bermuda for the next 10 minutes and I'm standing by for the readback, Pete.

CDR Roger.

CDR (garble) 8, plus all zips, plus 0 4 5 3, 000, 18, 0000, minus 7500007 0390; 14 seconds four quads 7491 plus 058 minus 023 perigee capture are 45 nautical.

CC Roger, and when you started reading back the first four lines down through Noun 81, DELTA-VX you dropped out. Would you read me those four lines again, please.

CDR 020, 00, 0170, minus 1848, plus all zips, plus 0453.

CC Roger, got all that and I've got an entry pad update for you.

CDR Go ahead.

CC Roger. Starting with area; 476-5 doff, 039, plus 2262 minus 12977, 11524, 25979, 2610, 2643, minus 02974. Right 55 55; 3116, 26 21, 3006, 3413. Go ahead.

CDR Okay. On the entry update here you have 476-5 doff, 039, plus 2262 minus 12977, 11524, 25979, 2610, 26 plus 43, minus 02974. Right 55 55; 31 plus 16, 26 plus 21, 30 plus 06, 34 plus 13. Go ahead.

CC Roger. I've got 3 remarks to this pad. The targets north of the ground track. Lift vector is up and the pitch for rolling entry is 58 degrees and that pitch for roll and entry is on page E/5-12, and while I'm on that there was a typo mistake on the pad last night and it said page E5-2 the correct one is 5-12.

CDR Okay.

CC CDR, Houston. I've got a couple or three more notes for you. The first one is after 18 00 PET. You're P52 stars will be 37 and 45 and I have some comments to pass up to you about the flyaround.

CDR Go ahead.

CDR Go ahead.

CC CDR, Houston. I have some comments here on the flyaround. Be advised before I read them these are also accurate for entry day. First of all the major change in the flyaround is that the SWS will be in solar inertial

rather than rolled out of the plane in order to save TACS propellant, so you'll fly around in the SWS X-Z plane. And there are two cautions to be aware of during this flyaround. One is that since Beta is very close to 70 degrees - 69 to 70 degrees, you will come fairly close to gimbal lock and you must be aware of that as you do your flyaround as I'm sure you will be -

END OF TAPE

CC It runs 68 to 78 degrees. You will come fairly close to gimbal lock, and you must be aware of that as you do your flyaround as I'm sure you will be. And Rusty makes a suggestion that since you will be rolled over, you might want to consider setting up the - the GDC ball so that you can fly around in the belly (garble). That's something you might consider thinking about. The second caution note is - is that the television can't stand to be turned on within 22 degrees of the Sun. We don't think that'll be a particular problem because the flyaround is going to be fairly nominal and we're going to have early TV over the states, so probably when you get underneath the - the Skylab and looking back toward the Sun that problem will have gone away and the TV will be off. You have about 90 pounds of RCS propellant available, and the flyaround certainly shouldn't take that much. And sometime we'd like to know if you'd like your flyaround chart on page 2-14, the angle's all updated for you, we'll be glad to do that if you like. We plan to have television over (garble) from Goldstone to Mila during the flyaround. The camera configuration is unchanged from your previous information about it. And the targets are unchanged. We are particularly interested in any vent flumes, debris, particle clouds, or any discoloration on the Skylab that you see during flyaround.

CDR Okay, the distance still 300 feet?

CC That's affirmative. We're going to back out to 300 feet and go around just for nominal.

CDR Okay, go ahead and send me the new chart for page 14. And I think the other thing while we're discussing it right now - would be we're going to see about taking the TV out on the E.A. So y'all just see the parasol.

CC Roger, Pete, and I'm not sure I copied. You said you do want us to update that chart. Is that correct?

CDR I do want to update the chart. That's correct.

CC Okay, real good. Stand by 1 please.

CC CDR, Houston, also at this site, this is the place we'd have done some uplinks for you. We were prepared to do those. We got them out to the site so the computers yours again. And we got about 2 minutes to LOS. I have one question from the SWS flight about the operation this morning. We had a little message tucked in to the bottom of the summary flight plan that may have been overlooked. And that was, we were requested a TV 5 for your BMMD measurements this morning. We noticed VTR is at the beginning of the tape and we're wondering if we missed that one, or whether or not you got it and rewound the tape so we can make our

plans for the rest of the day.

CDR — No, we sure didn't see it. (garble)

CC — I think we stuck it on the bottom of the summary flight plan and we'll take that one. It was - it was easy to miss. No problem.

PLT — Hey, Houston, you got a minute, Dick?

CC — That's affirm, Paul. We got 1 minute to LOS and then we're going to see you guys at Ascension at 10:22, so go ahead you got about 45 seconds.

PLT — We got these EPS/ECS parameters, which the message says (garble). Now, you want values? You just want to know if they're in limits? I'll do it any way you want. And I'm sure you're aware of page 3-2 of systems check-list 3-22.

SC — You there, Houston?

CC — Roger. Stand by, please.

CC — Skylab, Houston. We're going to want the actual values. And we're very short on time here so we're going to have to you at Ascension.

PLT — Whoo, okay. See you there. (garble) many passes of that (garble) (garble).

CC — Roger, and we're going to be comparing them real-time.

CDR — If you guys want things like that on (garble) it's got to come up the night before. Was it on the night before? Saw it this morning.

CC — Have to check, Pete. We'll get that to you.

PAO — This is SKylab Control, at 14 hours 23 minutes. We've had loss of signal at Bermuda. Next station to acquire will be Ascension in about 5-1/2 minutes. The numbers of maneuvers were being read up during the stateside pass are in connection with the entry simulation that is scheduled for today.

END OF TAPE

SL-II MC-1064/1
Time: 09:17 CST, 23:10:17 GMT
6/16/73

PAO The entry simulation. That is scheduled for today. Skylab's orbital parameters now are 242 by 229.4 nautical miles; the orbital period, 1 hour 33 minutes 13.7 seconds. We'll come back up just prior to Ascension acquisition. At 14 hours 24 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1065/1
Time: 09:21 CDT, 14:10:21 GMT
6/16/73

PAO This is Skylab Control at 14 hours 28 minutes Greenwich mean time. Skylab coming up within range of the Ascension Island Tracking Station now. We'll stand by for conversation during this pass.

SC Are you there, Houston?

CC PLT, Houston. Affirmative. Stand by, please, just a second.

CC PLT, Houston. Go ahead.

SC Okay. I understand you want to compare these parameters real time. So do you want me to read them real time now, or do you want me to give you the values I logged a half hour ago?

CC Roger, Paul. We're having a discussion about it now. We're having an antenna problem at the site, and we're considering doing this not during the real-time stations. And we're talking about it now, and I'll get right back to you as soon as I have an answer.

SC Okay.

SC While you're down there, Houston, could you tell me what message 2130 is?

CC CDR, Houston. Say again, please.

SC What message is 2, 1, 3, 0?

CC Stand by.

PAO This is Skylab Control with a correction on the Greenwich mean time of the last announcement. They've started the phase elapse time clock for the reentry simulation in the GMT clock location. The correct Greenwich mean time as of now, 10 hours 25 minutes.

CC PLT, Houston. If you're listening, we've - I've got an alternate proposal for how to do these checks that I think will be a little bit easier on you and also on the air-to-ground.

SC Go ahead.

CC Okay. We're recording the proper subframe on board. I'd suggest that you do these checks by recording them on channel B. You can do it at any time that you have a chance, starting now. And the only thing we would appreciate it is - is if you'd give us a time hack, particularly if you take a break in, or a gap in, the time that you put the channel - the data on channel B. Then we'll dump the voice data and the subframe, and we'll put it together on the ground.

SC Okay.

SC Okay. Houston, your 2324-Alfa, day 25 transfers are complete.

CC Okay. Thank you very much.

SC And further on that 2324, I'd like to read them for the (garble) shots, and do the requirement.

SL-II MC-1065/2
Time: 05:21 CDT, 2311C:21 GMT
6/16/73

CC CDR, Houston. I didn't copy your second comment on 2324-Alfa. Would you say again, please?
SC 2324-Alfa, the next to the last sets, I'd like the reason and the requirements for the photos.
SC In other words, who wants them?
CC Okay. I'll get the answer for you.
SC And why?
CC Roger.
SC And for the flares, Dick, on the same message, I'll get those housekeepings all done today.
CC Okay. Very good.
CC CDR, Houston. In answer to your two questions, message 2130 was the day 25 transfers, which I assume you've figured out from your report. And the second one, I don't - I do not have a immediate answer on that second one, but we're sure going to get you one, and we'll get back to you when we can.
SC Okay. There are comments on the 2130 already on B channel. That's why I get very frustrated, because I don't think anybody has B channel for a week.
CC Roger, Pete.
CC PLT, Houston. Back to the subject of this check. We've still got about 2 minutes and 25 seconds left here at Ascension. One thing we would like in real time is - On panel 225, are both the 150 psi REGs OPEN? And we'd like a read out of the N2 pressure on panel 225.
SC Well, I was wondering the same thing. Yes, both the REGs are OPEN, and on board they read 140.
CC Okay.

END OF TAPE

SL-II NC1066/1
Time: 05:30 CDT, 23:10:30 GMT
6/16/73

CC - 150 psi REGS OPEN and we'd like a readout of the N2 pressure on panel 225.
PLT I was wondering the same thing. Yes both the REGS are OPEN and on board they read 140.
CC Okay. Thank you much. We're reading 142 so that check is good.
PLT Yeah, and as soon as you figure it out I'd like an explanation.
CDR Houston, you there?
CC Certainly, go ahead.
CDR You're 23 19 to Alpha 2. I would like you to uplink the checklist changes to NC20. And let me see if I can find anything else on there to (garble).
CC Roger.
SC Oh yes. Send us the procedure for dumping the slot A propellant to CSM. I still don't understand the high temperatures. Y'all figured the thermal wrong - or do you really believe that high temperature?
CC CDR, Houston. We copied your question. We're about 25 seconds from LOS here at Ascension. We'll have you at Carnarvon at 10:55 Zulu and we'll have you an answer there.
CDR All right.
PAO This is Skylab Control; 10 hours 33 minutes Greenwich mean time. Ascension has loss of signal with Skylab. Carnarvon, Australia will be the next station to acquire in 22 minutes. We'll come back up just before acquisition at Carnarvon. At 10 hours 33 minutes Greenwich mean time this is Skylab Control.

END OF TAPE

QUAD "A"

SL-II MC-1067/1
Trans: 09:54 CDT, 23:10:54 GMT
7/16/73

PAO This is Skylab Control at 10 hours 54 minutes Greenwich mean time. Skylab coming up within range of the Carnarvon Station. We'll stand by for this pass.

CC Skylab, Houston. AOS at Carnarvon for 8 minutes.

SC Roger, Houston. And on the deactivation checklist, I presume all those times are correct. You guys, do you know?

CC Roger, Pete. My initial assumption is that's correct, and we're checking on that now.

SC Drag on.

CC Definitely, the PET times that are in there are correct.

SC Okay.

CC Also, Pete, I've got some answers here on quad-Alfa that might help you understand what our thinking is here. It turns out that the temps on the propellant and helium tanks, both in quad-Alfa, are about 20 degrees higher than our pre-flight thermal predictions. And we sort of suspected a degradation of the thermal control coating around quad-Alfa and we had you check that on EVA day, the other day. And you checked that and didn't see much of anything. We're not particularly concerned about these slightly elevated temperatures, but we would like to relieve the pressures in the tanks before they reach 210 psi, if they do. We plan to relieve the pressure first by using quad-A for the day 168 trim burn. We really don't feel that the quad-A to (garble) propellant is going to be necessary, but just in case it is, we are going to send you that procedure.

SC Okay.

CC Roger.

CC Skylab, Houston. Two items, one for the PLT. Paul, whenever you do get finished doing the recording you do today for us on those EPS and ECS checks, if you'll let us know, we may want to reconfigure the way we're running the recording on board. So just let us know. Also, the second thing for Pete - it turns out, Pete, if we aline the GDC prior to undocking to 33.5 degrees, 10 degrees, and zero degrees roll pitch yaw (33.5, 10, and 0, prior to undocking), then that fly around chart that's already listed in the book is good, if you'd use that on the GDC. And assuming that and no update to that chart would be required and assuming that you think this is the way you might do it, Rusty's planning on flying this in the simulator sometime in the next day or so. And we'll get back to you and - just to make sure there's no hookers in there.

SC Yeah, let's do it that way. And if that's [illegible]ht, send me those gimbal angles on it with the checklist.

CC Roger. I sure will do that. And just so you understand that we'll - you will be flying around then on the (garble).

SC Roger, Dick.

CC Roger.

SC Okay. I've got the day part of the EPS check, the EPS readings are already on phase. and right now, even this very instant, I'm going to put the night readings on the tape.

CC Very good. Just let us know when you're through.

SC Wilco.

SC Are you there, Dick?

CC Roger. We're here, Still got 2-1/2 minutes left at Carnarvon.

SC Okay. I show in this Flight Plan that 030 (garble) converts to 1327 PET on day 29. Is that still the way we're going to go? Is that correct?

CC I'm checking.

SC Okay, Dick. The night side EPS readings are on tape now, and that's it.

CC Thank you very much, PLT.

END OF TAPE

SL-1T MC1068/1
Time: 06:05 CDT, 23:11:05 GMT
6/16/73

CC Skylab, Houston we're about 20 seconds from LOS. We're going to see you at Guam at 11:11 Gmt. We're going to dump the data tape recorder at Guam. And Pete for the rest of this entry SIM do you want me to give you AOS/LOS times and PET I'm assuming, if so, I'm going to change to that.

PLT Yes, give it to us in PET and then the first time you do it we'll see if we know now to convert.

CC Roger, and I'll give you a time hack at Guam.

PAO This is Skylab Control at 11 hours 6 minutes Greenwich mean time. Carnarvon has had loss of signal. And Guam will acquire Skylab in about 4 minutes. We'll be back up just prior to the Guam pass. At 11 hours 6 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SNC

SL-II MCIF69/1
Time: 06:08 CDT, 23:11:08 GMT
6/16/73

PAO This is Skylab Control at 11 hours 9 minutes Greenwich mean time and Guam is about to acquire Skylab. We'll stand by for conversation.

CC Skylab, Houston. We're AOS at Guam for 6 minutes.

CC Skylab, Houston. I'm going to give you a time hack in about 20 seconds and the time then will be 15 hours and 20 minutes PET.

CDR How about 15:21?

CC Okay, I'll do that.

CDR You want it to be 15:21? Isn't it already 15:20?

CC I think we're 1 minute out of sync, Pete. Right now, or my mark, it's going to be 15 hours 20 minutes and 20 seconds. Stand by. MARK 15, 20, 20.

CDR Okay, well we're off by 40 seconds.

CC Okay. To continue just a little bit to talk about PET and Gmt on entry date, Pete. The times have change because of - and they are going to change - even a few seconds - even between now and entry day. And just in case you're interested, right now if today were entry date a PET of 15 hours, even, would go along with the Gmt of 08:10:41. This is not going to be a problem on entry day because we're going to - after you power up the CMC we're going to make sure the clock is all spiffied up and reading the right time and you're going to sync the MET to the CMC clock. So on entry day we should not have any kind of a problem at all. The rest of the AOS and LOS calls today will be given to you in PET.

CDR Okay. Well, you still haven't answered my question about the deactivation checklist. Is there enough difference? Are you going to update the times?

CC Roger, Pete. We're still talking about that one.

CC CDR, Houston. In answer to your question about times - there definitely will have to be some changes to the times in the deactivation checklist in Gmt. Now the PET's are also a very few minutes off. It's less than 10 because the time of undocking has changed. However, we are going to put it all together and get it up to you in plenty of time so that you can make the correct changes to the deactivation checklist well prior to entry day. We're about 20 seconds from LOS here at Guam. We're going to see you at Goldstone at 15:42.

SC Roger.

CC Skylab, Houston. This is the point where we would give you a GO for undocking. The controllers have looked at the bird. It looks good and you have a GO.

CRD Great.

SL-II MC1069/2
Time: 06:08 CDT, 23:11:08 GMT
6/16/73

FAO This is Skylab Control at 11 hours 19 minutes Greenwich mean time. Guam has loss of signal and Skylab II crew has been given a GO for a simulated undocking command and service modules from the Skylab workshop, as the entry simulation is underway. Next station to acquire will be Goldstone in 15 minutes. We'll come back up just before acquisition there. At 11 hours 93 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC1070/1
Time: 06133 CDT, 25:11:33 GMT
6/16/73

PAO This is Skylab Control at 11 hours 33 minutes Greenwich mean time. Goldstone about to acquire Skylab. We'll stand by for the stateside pass.

CC Skylab, Houston. We're AOS stateside for about 15 minutes.

SC Roger, Houston.

CC Skylab, Houston. We're going to drop out for about 30 seconds as we go from Goldstone to Mila, and that's going to occur in about 1 minute, and I'll give you a call when we lock back up.

SC Okay.

CC Skylab, Houston. We're back in contact at Texas; stateside for the next 11 minutes. And the only thing that I didn't read up awhile ago or mention to you awhile ago is that if any questions do come up as we review through the procedures, both down here and on board, we'd like you to, I'm sure you will, just go ahead and bring them up in real time, and we'll talk about them as we go rather than saving it all and having any kind of a extended debrief at the end. We got 10 minutes left in this pass. Standing by.

SC Okay, Houston.

END OF TAPE

SL-II MC-1071/1
Time: 06:49 CDT, 23:11:49 GMT
6/16/73

CC — Skylab, Houston. We're 1 minute from LOS. We're going to see you at Ascension at 16:0, correction 16:10 and Flight wanted me to advise you that the TV reception during the flyaround today was just exactly like it was during the sims.

SC — Now, what are we going to say to that?

CC — Just -

FAO — This is Skylab Control at 11 hours 53 minutes Greenwich mean time. Bermuda has had loss of signal and Ascension will acquire Skylab for about a 5 minute pass in approximately 8-1/2 minutes. We'll come back up then. At 11 hours 54 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1072/1
Time: 07:01 CDT, 23:12:01 GMT
6/16/73

PAO This is Skylab Control at 12 hours 1 minute Greenwich mean time. Skylab coming within range of the Ascension Island Station now. We'll stand by for this pass.

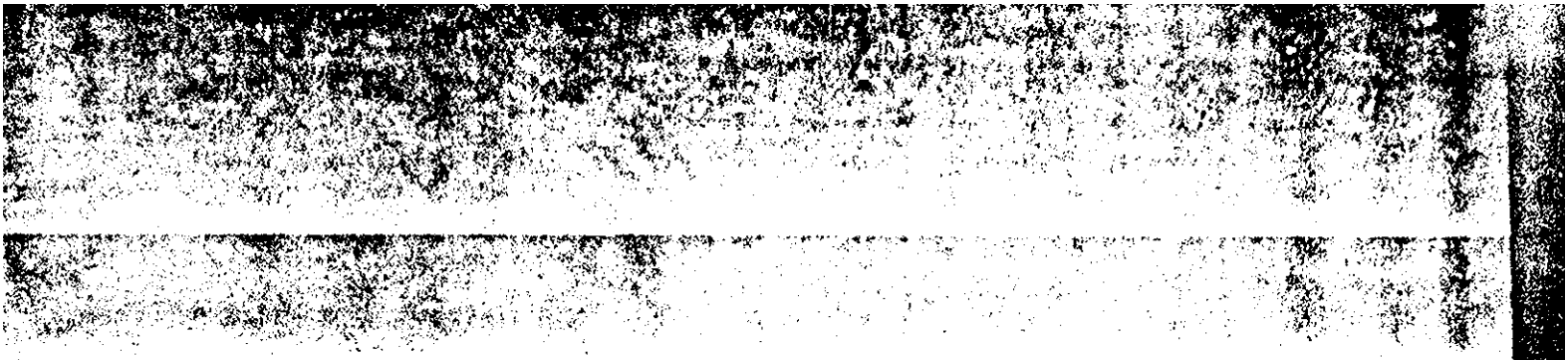
CC Skylab, Houston. AOS Ascension for 4 minutes.

SC Roger.

CC Skylab, Houston. We're 1 minute from LOS. We're going to see you at Carnarvon at 16:40, and this is the pass where we'd give you a GO for separation. And the controllers have all looked, and you have a GO.

PAO This is Skylab Control at 12 hours 8 minutes Greenwich mean time. Ascension has loss of signal, and the Skylab II crew has been given a GO for a simulated separation maneuver from the Skylab workshop. This maneuver would be performed outside of acquisition of a ground station. Will be a small burn by the service module reaction control system. Carnarvon will be the next station to acquire in 23-1/2 minutes. We'll come back up just before acquisition there. At 12 hours 9 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE



SL-II MC1073/1
Time: 07:31 CDT, 23:12:31 GMT
6/16/73

PAO This is Skylab Control at 12 hours 31 minutes Greenwich mean time. Skylab about to come within range of the Carnarvon station. We'll stand by for this pass.

CC Skylab, Houston. AOS, Carnarvon for 10 minutes.

CDR Roger, Houston. Would you pass the PAO that we completed M4873 Charlie, CDR,PLT and SPT and 4871 Foxtrot, and we'll get 4872 Charlie a little later on. It'll be on B channel.

CC Thank you very much, Pete and he's got that word.

CDR And also would you verify we have 30 minutes of VTR tape. We're going to take care of that tour sometime this afternoon.

CC That's affirm, Pete. You have full 30 minutes on the VTR. It's ready for you.

CDR And I assume that we'll have 30 minutes of the morning for the TV 5 you wanted.

CC Stand by on that one.

CC CDR, Houston on the TV5, negative. We're not going to schedule TV5 in the morning because of another TV requirement, it just turns out, but we will pick up TV5 in a couple of days. But in answer to question generally, whatever we schedule in the morning, the VTR will be cleaned off and it'll be ready for you.

CDR Okay.

CC Skylab, Houston I told you I was going to be talking the rest of the day in PET but I do have a message for you here that relates to GMT. As of 13:00 GMT today, which is about 25 minutes from now, in answer to your previous question, you will have been on orbit exactly 22 days. You will have flown 317 revolutions of the Earth and that equates to 7,846,000 nautical miles. And be advised if you were earning 12 cents a mile that each one of you guys would now be due $1,083,461.30. Over.

CDR Rog, we'd like to file that claim.

CC (Laughter) Roger that

CDR That's a feeling you're going to go for Government quarters and nothing available on a buck and a quarter a day.

CC I'l bet you're right.

CDR I know. That's what I got paid for my other three flights.

CC (Laughter) Roger.

CC Skylab, Houston we're 1 minute from LOS at Carnarvon. Guam is coming up at 16:54. This is the point where we'd give you a GO for the SPS 1 shaping burn.

CDR Rog.

END OF TAPE

SL-1I MC1034/1
Time: 07:42 CDT, 23:12:42 GMT
6/16/73

PAO This is Skylab Control at 12 hours 43 minutes Greenwich mean time. Carnarvon's had loss of signal. Guam will acquire in about 2-1/2 minutes. We'll stay up during this short LOS. The milage number at 12 cents a mile that CAP COM Dick Truly passed up to the crew was figured on statute miles. He gave them their milage in nautical miles. The statute miles on which that figure was calculated is 9,028,843.9 statute miles. That will occur at 1300 Greenwich mean time, about 15 minutes from now. We'll stay up for the Guam pass.

CC Skylab, Houston. We're AOS at Guam for 9 minutes.

SC Roger, Houston. Are we GO?

CC That's affirmative; you are.

SC Okay, we're going.

CC Okay.

SC Since you told us about the million dollars, we've done the EVA, completed the deactivation checklist, undocked, done the fly around, and we're ready for SPS 1.

CC (laughter) Roger that.

CC Skylab, Houston. We are going to see the SPS 1 burn here at Guam on entry day, and - and we did see it here today. We would be standing by for a burn status report, and also we would be configured to watch you do your logic sequence checks here at Guam.

SC Roger that.

CC Roger.

PAO This is Skylab Control. A shaping burn, which the - Skylab II crew has just simulated performing, is a service propulsion system maneuver, the - the first maneuver in a two maneuver decrbit sequence. The shaping burn would lower perigee to 90 miles.

CC Skylab, Houston. We're go - about a minute from LOS at Guam. See you at Goldstone at 17:19.

SC (garble)

PAO This is Skylab Control at 12 hours 56 minutes Greenwich mean time. Guam has had loss of signal. Next station to acquire will be Goldstone in about 15 minutes. Skylab II crew involved in an entry simulation. We'll repeat the information that CAP COM Dick Truly passed up to the crew. At 13:00 Greenwich mean time, about 3 minutes from now, Skylab II crew will have completed 22 days in orbit. They will have completed 317 revolutions of the Earth and have traveled 7,846,000 nautical miles or 9,028,843.9 statute miles. And if they were receiving 12 cents per statute mile,

SL-II MC1074/2
Time: 07:42 CDT, 23:12:42 GMT
6/16/73

each would have earned $1,083,461.30. At 12 hours 37 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1075/1
Time: 08:09 CDT, 23:13:09 GMT
6/16/73

PAO This is Skylab Control at 13 hours 10 minutes Greenwich mean time. Skylab coming up on the Goldstone station. This is the lunch period for the crew. All three crewmen having lunch at the same time today. We'll stand by for this pass over the United States.

CC Skylab, Houston. We're AOS stateside for the next 16 minutes.

SC Roger.

CC And Skylab, uh, particularly for the CDR, if during this period we'd, you guys would be eating and you'd have the suits off and we've been talking about a couple of items on Entry Day, that we'd like to bounce off of you, Pete, and if you're doing something where you could listen to us, I'll talk to you about them.

CDR Go ahead. We are eating and we're out of our suits.

CC Okay. The first one we've been talking about, Pete, a little bit, is the business of the timeline between undocking and the SEP maneuver. Turns out that due to the two factors, one, primarily the slip in the launch day and secondarily our desire to get the television for the flyaround, that in order to obtain the separation - the relative positions between the two vehicles, that we described in that message to you yesterday or the day before, on the flyaround instead of doing a 360 degree inertial maneuver around the SWS, you're going to actually have to do about another quarter of a revolution. So, what we're considering is adding about 10 more minutes between undocking and the SEP maneuver to give you a little more time there and that still leaves, we think, plenty of time. I think the correct number is about 34 minutes or so between the SEP and the shaping maneuver. What do you think about that?

CDR Okay. I never did quite understand why we wanted the workshop between us and the Earth, and nothing.

CC Yeah, let me, let me try to describe Pete, in words of what the relative attitudes of the two vehicles will be at the time of the SEP burn. Essentially, when you get in position for the SEP burn, and the reason that it's changed is cause of the recontact problem, you're going to be looking at the sunside of the SWS, and you're going to be in the SWS X-Z plane and essentially on the plus-Z axis of the SWS. Now, as you look at it, you're going to be pretty much looking at the Earth's horizon. The reason for this is that the beta angle is about 70 degrees. So, when you actually do the minus-X SEP maneuver, that's what the SWS will look like to you. Over.

CDR Okay.

SL-II MC-1075/2
Time: 08:09 CDT, 23:13:09 GMT
6/16/73

CC Okay. With your concurrence then, I think we probably will stick that extra 10 minutes in there and we'll plan to do it that way. The second thing that we wanted to talk to you about, was the business of times, PET and GMT, on deactivation day, the day prior to entry and also on Entry Day. Primarily those times that you're going to be in the deactivation checklist. We've been talking it over and somebody came up with an idea that we think will be - make it a lot easier, rather than send you a bunch of times and make you do a bunch of pen and inks. And it essentially is, that on deactivation day, I guess that's day 28, the day prior to entry, we would give you a pseudo GMT that we'll just refer to, say as watch time that you'll set your wristwatches to. Now this - when you set your watches to this time, you then could go through the present deactivation checklist without having made any pen and inks and the times, the GMTs that are on there, would coincide with the times on your watches. We would also set up our tables here on the ground so that all calls as to the AOS time, AOS and LOS times, would also be in the same time. So essentially from the time you set your watches, to the watch time, we wouldn't have to change them except to give you a time hack occasionally, if you needed one, from there to the rest of the mission.

END OF TAPE

CC We wouldn't have to change them except to give you a time hack occasionally, if you needed one from there to the rest of the mission.

SC Okay.

CC Okay, those are the only two things we wanted to mention to you, I think. And we're standing by stateside. We've got another 11 minutes.

SC Okay.

CC Skylab, Houston. One more minor point on the times that we were just talking about. One thing that I failed to mention is that we have not coordinated this idea of watch times with the deactivation team which is not on duty here. We will get with Neil and do that before we formerly institute this procedure. For your information, if we do go to the watch time I was suggesting, the difference would be 4 hours. But that wouldn't make any difference to you since you were operating on the watches. But we've essentially set your watches ahead or changed your watches by 4 hours at the start of day 28. Also on a different subject of the PET on day 29, which really doesn't have anything to do with the change and the idea about the watch times. Because the undocking time nominally was 15 hours and 43 minutes in the nominal mission PET, and it is now going to be about 15 hours and 33 minutes. There will be about a 10-minute difference in the times that are in your deactivation checklist, all prior to undocking. And then after undocking, of course, all the PETs are good. Out.

SC I'm glad you said "Out" instead of "Over".

CC (Laughter) Roger.

SC The way I see it, we'll have it deactivated some time on day 28, and we'll be down some time on day 29.

CC Roger that, Pete.

CC Skylab, Houston. We're 1 minute from LOS; Vanguard at 17:45.

SC Roger, Dick. And the PLT gets all those housekeeping things done.

CC Roger.

SC Still there, Houston?

CC Affirmative for about 10 or 15 seconds.

SC Okay, to fix our water heater problem in the head, we changed out the valve. That's the only spare on board. We're bringing it back. We're also strongly recommending that Bean's bunch bring at least one more replacement with it.

CC Roger, Paul. And this is one time that we did read the tapes, and we've already been talking about that this morning. See you at - -

SC (Garble). You rascal.

SL-II MC1076/2
Time: 08:16 CDT, 23:13:16 GMT
6/16/73

PAO This is Skylab Control at 13 hours 28 minutes Greenwich mean time. The Merritt Island, Florida, Tracking Station has had loss of signal, and the Vanguard Tracking Ship off the east coast of South America will acquire in about 8-1/2 minutes. Not too much conversation during this pass over the United States. Crew is having lunch. That lunch period will continue for a few minutes yet. Then they will go back to the entry simulations. The Science Pilot, Joe Kerwin, will delay returning to the entry SIMs for about 10 or 15 minutes, while he works with the ED31 experiment. That's the student experiment on bacteria and spores. And there'll be several more hours of entry simulations for all three crewmen followed by an A.M run by the commander and M092 and M171 experiments with Joe Kerwin as the subject and Paul Weitz as the observer. That's the lower body negative pressure and the metabolic activity experiments. Later in the evening Joe Kerwin has an Apollo telescope mount run also. Total amount of Apollo telescope mount operations scheduled today, 1 hour 58 minutes. We're 6-1/2 minutes away from Vanguard. We will come back up just prior to acquisition there. At 13 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC1077/1
Time: 08:36 CDT, 23:13:36 GMT
6/16/73

PAO This is Skylab Control, at 13 hours 36 minutes Greenwich mean time. We're standing by for acquisition at the Vanguard.

CC Skylab, Houston. AOS at Vanguard for 4 minutes.

SC Hello, hello, who was that?

CC Houston, Texas calling.

SC Oh, roger, it's you.

SC We've been having a lot of crank calls up here lately.

CC Roger.

CC Flight CAP COM, do you want me to - -

SC There was another one.

CC My circadian rhythm isn't cranked up to speed yet, that's the problem. Hang on.

PLT I don't blame you. Hey, how are you coming on the answers to a couple of questions? First one being, what's the story on our (garble) pressure to the regulator; and the next one was , I don't know if you guys even know about it, the evening team last night took it on the TCS, the Thermal Control System logic breaker.

CC Paul, - - Stand by 1.

PLT Hey, if nobody there is familiar with it, Dick, just let it go and I'll get it from the next team when I get a hold of them. You know just - they were going to dig into the schematics for something I need.

CC Roger, that. We'll take a look at it and see if we got an answer for you.

CC Skylab, Houston. We got about a minute and a half left in this pass. I've got a - we got a problem that I'd like to speak to the SPT about. We dumped the television from your TV tour that you did last evening, and we did not receive any voice on channel B. And we're wondering what configuration you were in, and we wanted to make sure that we got to talk about it before Pete did his tour this evening. Go ahead.

SPT Okay. I was on a lightweight headset, and umbilical connected to the speaker intercom box in the experiment compartment which was on channel B. And I was on intercom press-to-talk to verify the hot mike, and that's all I did.

CC Skylab, Houston. Have you been - have you used that intercom box since then, since I can't tell where you're talking from now?

CDR (garble) on the VTR, right? We didn't have to have it on RECORD or anything.

CC Stand by.

SL-1I MC1077/2
Time: 08:36 CDT, 23:13:36 GMT
6/16/73

SC Is that the voice going to video tape?
CC Skylab, Houston. The voice has to go on channel B, so you do need to select the voice record switch. We're going AOS here at Vanguard. We're going to see you a long pass later. Goldstone at 18:56.
SC Okay, while you're gone you can be cooking up an answer to why (static).
PAO This is Skylab Control, with 13 hours 45 minutes Greenwich mean time. Vanguard has loss of signal. There's a long LOS here, about 1 hour and 2 minutes. The next station to acquire will be Goldstone. At 13 hours 45 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1078/1
Time: 09:44 CDT, 23:14:44 GMT
6/16/73

PAO This is Skylab Control at 14 hours 44 minutes Greenwich mean time. Skylab approaching acquisition at the Golstone Tracking Station. In about 25 minutes Skylab will be beginning the revolution in which simulated entry and landing will take place, the crew having already performed the simulated undocking separation from the Saturn workshop and the first burn in a two step maneuver to deorbit the command and service modules. The shaping burn, first of two service propulsion system burns, was simulated over the Carnarvon Station during the last revolution. That lowered perigee to 90 miles. The second service propulsion system burn the deorbit maneuver proper, will be performed out of range of any tracking system. When Skylab is acquired at Goldstone, shortly after acquisition they will simulate the activation of the command module reaction control system. We'll then go through the Texas Station and Vanguard, and the simulated deorbit burn will be performed between the Vanguard Station and the Hawaii Tracking Station. It's been more than a month since the crew and the flight controllers have performed an entry simulation. This is the first inflight simulation for the manned space flight program. It was felt, because of the duration of the mission and the criticality of the reentry phase of this flight, that both the crew and the flight controllers would profit from a simulation, and that is what has occupied the major portion of the crew's day today. We'll stand by now for acquisition through Golstone.

CC Skylab, houston. We're AOS Goldstone for 13 minutes. I've got some flare information for you and also a couple of comments on the VTR.

SC Okay. We're watching the flare; go ahead with the comments.

CC Okay, good. On the flare first, Pete, you might let us know what you're doing. It - actually it started when you guys were in the dark. It started at 14:19. It was originally classified subnormal, then reclassified 1-Bravo, and then again to 2, with X-rays coming out of it. And our information shows it's presently declining. Over.

SC Roger. Our information shows the same. We wandered down to the ATM panel at sunrise to see what was going on. We noticed that you guys were conducting unattended OPS and that there was a flare going on which was visible in XUV and X-ray - not in H-alpha because of where you have the pointing. The PMEC count was almost 700 at that time, with an image intensity count (garble) about 100. Both declining and both have continued to decline, and I have not pointed at the flare or interrupted your unattended programs. We don't have

ground rules for this sort of thing. What would you like for me to do?

CC Stand by.

SC Meanwhile, Houston, while you're checking that, we found the problem with the VTR. The B CHANNEL INPUT switch was OFF. It wouldn't again be sure which position it (garble) be in. I guess ICOM PTT or PTT will work, won't it?

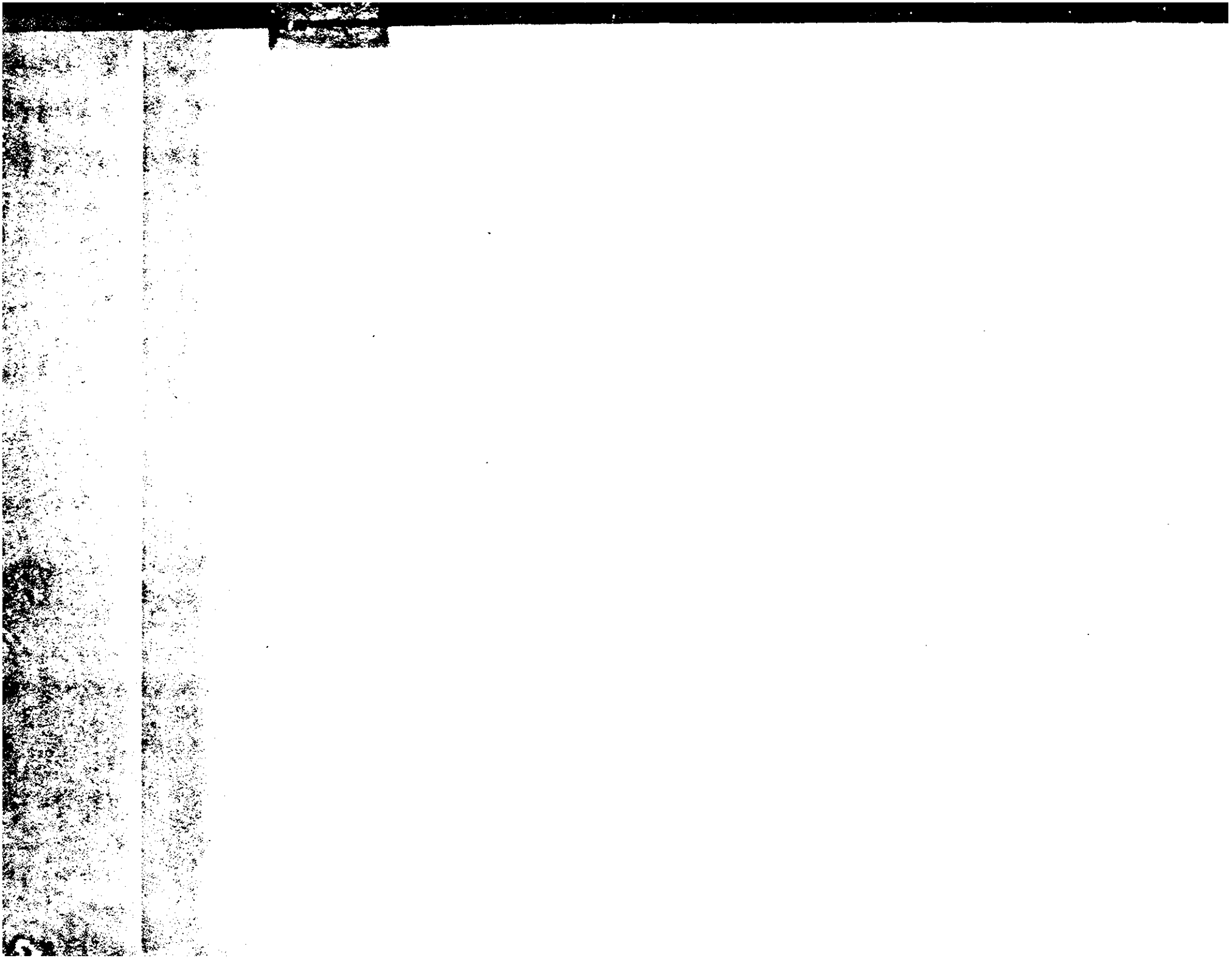
CC Skylab, Houston. That's affirmative; those positions will work.

SC Okay. You do not have to have the RECORD switch ON, correct?

CC That's correct. We gave you an incorrect answer. You do have to have the cables configured properly, but you do not have to have the VOICE RECORD switch on SIAs hit.

SC Okay. Well, unfortunately, we verified that he was talking on B channel, but not at that block. And we're going to have to put it in the checklist (garble).

END OF TAPE



SC Okay. Well, unfortunately, we verified that he was talking on B channel, but not at that block. And we're going to have to put it in the checklist as something that went down the crack, I guess.

CC Roger that, Pete.

CC And, Skylab; Houston. We think the best thing now - We think you did the right thing, and - when you came by. And we'd like to just to go ahead and get this one in unattended OPS. And you can just go ahead and watch it as you like.

PLT Okay. I think for the next crew that it's one of a couple categories that they might be thinking about. And one is this - When you come around a corner and you see a flare in progress. The other is like what happened last night - When you are doing some other work and you see a small flare, which you don't want to do a full flare program on, but maybe you can snatch a little something.

CC Roger. That's a good suggestion. And it's obvious that we do have a couple of categories of possibilities here that we can talk with those guys about and come to some new ground rules.

PLT Roger.

CC Skylab, Houston. We're going to uplink some rate gyro drift compensations, and we need for you to stay off the DAS for a couple of seconds. I'll let you know when we're through.

SC I've got it.

CC Thank you.

CC Skylab, Houston. Not to beat this VTR problem to death, but we want to make sure of what you said, Pete, and I'm not sure I understand it completely. As I understand it, the - on one of the SIAs, the channel B selector next to this channel B CCU input connector was in OFF, and I'm wondering whether or not that was - whether that was the SIA that Joe was plugged into or the SIA that the VTR cable was plugged into? Over.

CDR Don't read me, Houston?

CC Affirmative.

CDR Bad VOX 116. The switch was off on VOX 116.

CC Okay. Real fine. Now we understand it, Pete. Thank you very much.

CDR Okay. That's not in the checklist anywhere. It's like this panel 132 switch business. We've got bitten on that one too many times, too. We need to put that in every place in the TV checklist that if you're going to have voice, you're going to have to check VOX 116. In every (garble) you got to check VOX 132.

SL-1 MC-1079/2
Time: 09:50 CDT, 23:14:50 GMT
6/16/73

CC Roger, Pete. We probably do need to put some verifies. The only place that we can find where that channel B selector switch is to be put on channel 1 - I mean panel 116 to PTT is in one place in the activation when you first - activate the VTR. But after that, we can't find where you ever reverify that. And apparently, in some kind of operation between then and now, it got put to OFF, and then without a VERIFY. We missed it; so we'll correct that in the TV procedures.

CDR Yeah, I think it got turned off way back when we were originally going to use B channel for EREP and we were going to disconnect that. And we got half way through doing that, and we thought you guys decided to go A RECORD and A for BROADCAST and VOX on EREP, and the switch never got put back in the proper configuration. And what did you say it was? ICOM, PTT?

CC It's PTT, Pete.

CDR Okay.

CDR Well, I'm sorry you lost that, because Joe gave a sterling performance.

CC No problem. It just appears that we - just one little thing in the checklist that (garble) will correct it. No problem.

CC Skylab, Houston. On the subject of the entry SIM today, the next - it turns out the way the stations go that the - following this Texas LOS, the last interface we have with you - and is down at the Vanguard. And our guys have gotten a good bit out of it today. What we plan to do, if it sounds okay to you, is we're probably going to release all the controllers, except for the trajectory people that are running some of their targeting. And depending on whether or not you feel like, by the Vanguard, that you'll have gotten what you wanted to get out of the day, we might have some suggestions for you in the way of experiment operations or whatever between the Vanguard pass that's going to come up in about, oh, another 15 or 20 minutes and the end of the point in today's time line, where it's scheduled for ENTRY SIM. It's your call.

CDR Good. Go ahead. We've gotten all we can gather.

CC Okay. We'll do some thinking between here and Vanguard and maybe have a couple of suggestions for you. We're about 1 minute from LOS. We'll see you at Vanguard at 19:21. And we're going to dump the data recorder there.

END OF TAPE

SL-II MCC060/1
Time: 10:00 CST, 23:15:00 GMT
9/16/73

CC About 1 minute from LOS. We'll see you at Vanguard at 15:21 and we're going to dump the data recorder there.

SC Roger.

PAO This is Skylab Control, 15 hours 1 minute Greenwich mean time. The Texas tracking station at Corpus Cristi has had loss of signal with Skylab. Tracking ship Vanguard will acquire in 12 minutes. The Apollo telescope mount controller reports that the ATM telescopes were not pointed at the flare region while in unattended operations during the - during the flare that started at 14:19 Greenwich mean time. Telescopes were not pointed at the flare. Also considerable discussion during this pass about the proper configuration for the video tape recorder in order to record audio along with the video. A tour of the workshop last night produced very excellent video but no audio was with it when it was dumped today. I believe they have the configuration worked out now so that problem will not reoccur. And a decision will be made at the Vanguard whether to continue this entry simulation. It may be ended a little early without going completely through entry and landing. Appears that both the crew and the flight controllers here in the Mission Control Center have gotten most of the information they were looking for and needed in this simulation. We'll come back up just prior to acquisition at the Vanguard. At 15 hours 3 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II NC-1081/1
Time: 10:13 CDT; 15:15:13 GMT
6/16/73

PAO Skylab Control at 15 hours 13 minutes 9 seconds Greenwich mean time. At the present time we are coming up on acquisition of signal at Vanguard tracking station on rev 476 just crossing into 477. We expect to hear from the crew momentarily. That last ATM was a 1 bright -

CC Skylab, Houston. I have a few items I'd like to read up to you if you'd like to jot them down, and then you can decide for yourselves which one you'd like to do, if any, and just let us know.

SC Go.

CC Okay. One, is to continue M552. In the event you get the completion on M552, we want you to go ahead and terminate, including the battery discharge and that termination is per page 4-5 of the MDA Experiment Checklist. Second item, is HK60 Bravo, 6, C, Bravo, which is condensate holding tank dump. Third item is TV5. Fourth item is the TV tour. And comment on those two items - those - you can do only 1 of the 2 of them and we'll leave it up to you as to which one you've got to clean VTR. We are looking at 2 and 3 EREP items that we might be able to pass up to you before the end of this pass, but right now I don't have enough information on them. Over.

PLT Okay. We got it, Dick.

CC Okay.

PLT And we'll let you know what we're doing.

CC Roger.

PLT We're doing 552, right now, Dick. The third (garbie) was in t' cool out. We'll do 60 Bravo and we plan to do the TV to instead of TV 5 today.

CC Okay. Sounds real good.

PLT And we will do M552 terminate before the day is over.

CC Okay, real good and I've got one request here. We need the XUV and H-ALPHA 2 DOORS to CLOSE.

PLT Okay, they are.

CC Roger.

PLT Hey, Houston. Is there an earlier time we could do the SPT's M092?

CC Stand by 1 on that one.

CC Skylab, Houston. We're 1 minute from LOS at Vanuard. I'm going back to GMT times on the LOS calls. We're going to see you at Hawaii at 16:22.

SC Okay.

PAO Skylab Control, 15 hours 21 minutes 43 seconds Greenwich mean time. We have lost signal at Vanguard. I apologize for the interruption at the beginning

of this transmission. We thought we heard air-to-ground before we had an indication of acquisition of signal here. I believe it was the spacecraft communicator talking on his loop. We do have the report on the ATM solar flare that was spotted. The ATM was not pointed at that solar flare. It had been pointed at the limb of the sun during the darkness pass, and when they came back into the light the solar flare was already receding. So, they may have - part of the activity of the solar flare took place while the spacecraft was moving around the dark side of the Earth, blocked by the Earth from the view of the Sun. It was reported from ground stations that was a 1 bright class 2 solar flare, that's 1 brightest, (garble) the same amount of optical brightness and area that we saw in the solar flare yesterday about the same time. It was a class 2, which means that its total X-ray high radiation - high-energy radiation was substantily below that of yesterday's, which was moderate. Class 2 is the lowest class in the C class of magnetic (garble) X-ray radiation. And the one we saw yesterday was an M4, which is in the moderate class. So, they did not use the ATM during that pass. It was an unattended operation. It was pointed at the limb of the sun. They didn't feel it was worth while to chase the flare, which had already begun to recede. We will not have acquisition now, for nearly an hour, 59 minutes and 23 seconds from now. And then we will pick up the transmission again at the Hawaian tracking station at approximately 20 minutes after the hour. This is 23 minutes 24 seconds after the hour, Skylab Control signing off for approximately 1 hour.

END OF TAPE

SL-II MC-1082/1
Time: 11:21 CDT, 13:16:21 GMT
6/16/73

PAO Skylab Control at 16 hours 21 minutes and 13 seconds Greenwich mean time. Present time, we're approaching acquisition of signal at the Hawaiian Tracking Station. We expect to hear from them in the next minute or so, and we'll stay live for air-to-ground.

PAO Skylab Control; we have data.

SC Houston, Skylab.

CC Skylab, Houston. We're AOS Hawaii. Go ahead.

SC Roger. We've been talking about that EV. Is there any chance - It seems to me last night the experiment 1 and 2 recorders were running. Is there any chance this waste is on experiment 1, that you got back last night while S073 was running?

CC Stand by 1.

SC And, Dick, when you got a minute to - shoot the balony about the condensate holding tank, I'd like to bend your ear for a minute.

CC Okay, why don't you go ahead. EGIL is listening, and we'll get an answer on the tape recorders here in just a second.

SC Okay. It was my understanding the condensate holding tank was a plain old ordinary everyday vanilla water tank, that had a few extra fittings put on it. We went up to measure where the bellows was, and that thing is completely out of configuration, which is one way of saying it took us one whale of a long time to find the little ferro magnetic strip in the stainless steel bellows, which I have now marked similiar to the other tank for the follow-on crews. And for their information, it's down on the bottom side of the tank that's pretty much up against the wall.

CC Okay. I'll make sure they get that information. Anything else on the condensate holding tank dump?

SC No, we'll measure, if you care where the bellows was. I assume you'd like to know.

CC Just can't hardly wait.

SC Oh, also, we have had a PPCO2 HIGH on "A" MOL SIEVE, which is the only one we're monitoring anymore. The gage indication reads 2. Now I think we've got two detectors - one for the gage and one for TM and - caution and warning, or some such mix. How about checking them, will you please?

CC Roger.

SL-II MC1082/2
Time: 11:21 CDT, 23:16:21 GMT
6/16/73

CC Skylab, Houston. We're coming close to LOS. We're going to see you at Vanguard at 16:50. We're reading 2 on PPCO2; and we're checking on the instrumentation now.

PAO Skylab Control; 27 minutes and 21 seconds after 16 hours, Greenwich mean time. We still aren't receiving tracking data from the Hawaiian Tracking Station, although the spacecraft communicator is now engaged in a discussion with the flight director, and it does not appear that he'll attempt to contact the spacecraft again. We'd like to explain at that time they were getting a reading of 2 on the partial pressure of carbon dioxide in the spacecraft. PPCO2 is partial pressure carbon dioxide. The question the crew had was whether this was a satisfactory reading and whether it was accurate. Flight controllers here, the EGIL specifically, are now checking to find out whether or not the instrumentation reading that they have is from the same sensor that is used for the spacecraft readout. That is to say that there may be separate instrumentation that gives us a telemetry signal that's separate from the one that's on the spacecraft. So that right now they don't have an answer to that. They'll check that out before we reach the Vanguard Station, approximately 21 minutes and 53 seconds from now. And at that time we should get some sort of an answer on whether or not that molecular sieve is reading too high a partial pressure of carbon dioxide. That would indicate too much carbon dioxide in the atmosphere. But it doesn't appear to be a problem right now. It's nothing - They are looking into it to find out why the reading is as high as that, and we'll get some sort of information on that in the next pass. This is Skylab Control at 28 minutes 4[illegible] seconds after the hour.

END OF TAPE

SL-II MC-1083/1
Time: 11:49 CDT, 23:16:49 GMT
6/16/73

PAO Skylab Control, at 16 hours 49 minutes Greenwich mean time. At the present time we're expecting acquisition of signal shortly at the Vanguard tracking station. And we will hear some discussion of the partial pressure carbon dioxide reading they got off of one of the mole sieves which is responsible for reducing the carbon dioxide content in the air. And we should hear some discussion right during the pass over Vanguard. This is Skylab Control staying live for air-to-ground at 49 minutes and 27 seconds after the hour.

CC Skylab, Houston. We're AOS at Vanguard. We got you for 10 minutes.

SC Roger.

CC Let's see guys, sorry we want LOS there, well it was a very low angle pass and I didn't get to give you a LOS call that I'm sure you got. On the PPCO2 high we're wondering is the mol sieve B PPCO2 caution and warning inhibited?

CDR Yes, it is.

CC Roger. Okay. Next question is, the PPCO2 high light still on, and if the light is out, if the light's on inhibit the caution and warning for mol sieve A. If the light's - is out, turns out this may be associated with mol sieve A bed cycling, which allows the cutlet sensor to sense inlet gas for approximately 1 minute.

CDR Okay, we'll take a look, we've got them both inhibited right now.

CDR Meanwhile Dick, the condensate tank bellows was 15 and 3 quarters inches at the start of dump.

CC Roger. 15 and 3/4 inches at the start of dump. One thing that we wanted to suggest was that you make sure, since this is the first time we have dumped a holding tank, want to make sure that, periodically, be sure and check the waste processor exhaust pressure to be less than 0.08. It is good now, we're looking at it on TM. And I have - we have searched on, Pete, on experiment 12 and the data tape recorders and unfortunately we didn't make out their - we didn't get the voice on any of those. And I have an answer here on the TCS logic circuit breaker for the PLT.

SC Go ahead.

CC Okay. We think that the experience that you had with the TCS logic circuit breakers in the heat exchanger fans was normal, if you were in the following configuration: panel 17 the 4 TCS heat exchanger fan switches to AUTO, and panel 614, TCS logic circuit breakers, two of them, closed, and also if the OWS temp was at least 4 degrees

greater than the temp selection that you have made on the low rotary knob there, which we have assumed that that was the case. The fans on signal from the TCS auto control module sets a latching relay, so opening the logic circuit breakers does not have an effect on the heat exchanger fans. A reset to the relay must be sent either by the auto control module or the OWS heat - heat exchanger fan switch to off on panel 390.

SPT Well if you're happy with that, I guess I am.

SPT Houston, SPT.

CC Roger. We're happy, Paul, and go ahead, SPT.

SPT Okay. The CO2 light is out. I have reenabled caution and warning. The gage was reading 2.7 a couple minutes ago and now it's back down to 2. So it may be spiking with the vent cycles.

CC Roger, SPT. And that concurs with what we saw. We saw as high as 3.6 on the last cycle there.

SPT Okay. Both our experiment tape recorders are running now apparently for S073. Is it okay to terminate them and go to M092?

CC Skylab, we're dumping the experiment 2 recorder now, so we'll get back to you prior to this LOS and let you know about configuration of those recorders.

SPT Thank you.

CDR Say, Dick, you got to have the procedures for dumping and not letting the tank get above 0.08 put in the procedures, cause it's not in any of our procedures, we've been watching it.

CC Roger. We copy and we'll make sure that gets in there.

CC And CDR, Houston. There's a teleprinter message in the teleprinter for you, I think.

CDR Okay.

CC Skylab, Houston. Be advised the ASCO is going to the command a NAV update here at Vanguard and we'd like to make sure you stay off the DAS, please.

END OF TAPE

CC Skylab, Houston. Be advised the ASCO is going to command a NAV update here at Vanguard, and we'd like to make sure you stay off the DAS, please.

SC Okay.

CC Skylab, Houston. On the tape recorders, after we finish our dumping here at Vanguard, you will be able to take them back and do M092. Just a reminder though, on the CDR details pad, that 1901 - there's a little step in there to reconfigure the recorders after M092 for S073. Also, we're about a minute and 20 seconds from LOS. We're going to see you at Van - correction, at Hawaii at 17:58.

SC Okay, but in the meantime you don't want 73 to run, right?

CC Roger. Just let it run until you need it and then take the recorders for M092. And then after you get through, reconfigure for S073.

SC Okay.

CC Roger, and we're through - we have finished our dumping here at Vanguard.

CC Skylab, Houston. We had to terminate the NAV update commanding due to a dropout in data. You can have the DAS back.

SC Is it already in or not?

CC Negative, CDR, it's not in. We'll get it up later.

PAO Skylab Control at 17 hours 1 minute and 10 seconds Greenwich mean time. We have lost communications with the spacecraft Vangu - over the Vanguard Tracking Ship. During that last pass there was very bad data; so they were - we're trying to make some maneuvers here from the ground, but they were not able to get those through because of a dropout in data. That means that they - the data coming back on telemetry circuits was not accurate enough and there was insufficient control over the spacecraft from the ground to properly change the attitude; so they will have to do that a little bit later. They've turned that back over to the crew. On that partial pressure of carbon dioxide, they determined that the reading they were getting was due to a normal function of the molecular sieve. The molecular sieve has an electro-pneumatic switching unit which controls the gas selector valves, and it shifts from one - from one of the sieve areas to another sieve area to cycle the canisters that are used for adsorbing carbon dioxide from the air. Now while it's doing that cycling, apparently it pushes some of the normal inlet air (that's air that's in the spacecraft) into the outlet area, and that would - Normally what you'd have is you'd have

higher partial pressure of carbon dioxide coming in the inlet than would be going out the outlet, after it had been scrubbed by the molecular sieve. But when the air is - when the cycling takes place, it does for a short period of time allow that output of normal input air to go by the output sensor, and it was sensing higher pressures of carbon dioxide than would normally be the case. The reason this hasn't happened earlier in the mission is that generally the partial pressures in the - of - I'm sorry, the total cabin pressure, total atmospheric pressure in the cabin, has been lower than it is right now. We're reading some pressures now of about 5.2 pounds per square inch. Normal readings are about 5 pounds per square inch or 4.9. The reason for this is that the last day or so, they have been bleeding one of the cryogenic oxygen tanks - a normal procedure, something they would do a number of - number of times during the mission. This has increased the total pressure in the cabin, and that seems to be enough to set off a CAUTION AND WARNING light. No problem at all actually involved; it's just a matter of the sensor being a little bit more sensitive than they require. They do have it activated again. They set up caution and warning, but it may be necessary at these high pressures to - to set it up for not - for not activating everytime there is a cycle. It goes through a cycle approximately once every 15 minutes. They did not have a chance to tell the crew that there are a couple of more activities on the Sun right now. That's nothing the crew would be normally expected to look at, but just for information, there is a prominence errupting at - Prominence 85 in is the process of errupting, and they also have some additional activity in active region 37, where we had a solar flare a few hours ago. But that information was not transmitted to the crew, because the crew is not expected to take any action on it. This is Skylab Control at 4 minutes and 22 seconds after the hour.

END OF TAPE

SL-II MC-1065/1
Time: 12119 CDT, 23:17:19 GMT
7/16/73

PAO This is Skylab Control at 17 hours 19 minutes Greenwich mean time. At the present time, the spacecraft is traveling over the - Madagascar, headed north. And we are expecting a press conference - a reshowing of a tour of the spacecraft that was made last night by the astronauts. We will have Rusty Schweickart available for a discussion of this in the small briefing room at building 1, beginning at approximately 12:30. That will be a playback of the tour of the crew quarters area of the spacecraft that was made last night, with Rusty Schweickart available for discussing the television at 30 minutes after the hour. It is presently 19 minutes and 52 seconds after the hour, Skylab Control.

END OF TAPE

SL-II MC1084/1
Time: 13:10 CDT, 23:18:10 GMT
6/16/73

PAO Skylab Control, at 18 hours 10 minutes 43 seconds Greenwich mean time. At this time we'll play back the air-to-ground from the Hawaiian tracking station that we've just passed. This was recorded over the last 12 minutes because we had something on the release line. We will now play back that air-to-ground from Hawaii.

CC Skylab, Houston. AOS Hawaii for 9 minutes.

CDR Roger, Houston. We got a (garble) DELTA-P on this 16 condensate 6. And after I turned on the heater and I've gone to vacuum, which hasn't done any good, it (garble) dumping except all that - Joe dumped it - it had about two cups of water in it when he started and now it's completely empty, so don't ask me where the water went to and don't ask me where the vacuum went to. I don't have any idea. So what would you like us to do about it while we're dumping the big tank?

CC We'll think about it, Pete, stand by.

CDR Okay.

CC And Skylab, Houston, be advised we're dumping the data recorder at this site.

SC Okay.

SC Skylab, Houston. A couple of things while we're waiting on an answer on the condensate tank; one is we see you operating a building block 5 and we'd like to - due a film in S054 - we would like to omit S054. So when you get to the end of the sequence that the 54 is in now, request you to terminate. Also we're going to attempt again on the NAV update. So if you can give us the DAS for a couple of minutes we'll get that command in.

CDR Okay, the pad you sent me said to run 54 on 5-Alpha but not on 5-Bravo and Charlie.

CC Stand by.

CDR Oh, sorry, it's up at the top. I didn't see it up at the top. Got it down at the bottom (garble) (garble). Okay, it's my mistake.

CC Roger.

CC CDR, Houston. We've got the NAV update. It's up good this time and you can have the DAS back.

CDR Thank you.

CC STP, Houston. I'm not sure where you are in the sequence, but you might listen to this one, a little flight plan comment on your flight plan this afternoon. On the ED31, we'd like to delete the ED31 photo session that you've got scheduled today based on your previous comments about the rate of growth and replace with the visual observation and appropriate voice comments as you see fit on B channel, and we will reschedule the final photo session probably a

couple of days from now. And this is day 168 or 9, and this is due to the apparent slow bacteria growth. Out.

CC Skylab, Houston. We're about 30 seconds from LOS. We're going to see you at Vanguard at 18:29. And we think present configuration is - is okay for now on the condensate dump system, so press on with that procedure wherever you are in it and we'll get back to you on that one at Vanguard.

CDR Okay.

PAO Skylab Control, 18 hours 13 minutes 4 seconds Greenwich mean time. We appear to have lost some of the air-to-ground there. The crew indicated at the very beginning in that pass that they were having some small problem with the condensate tank dump that is releasing the water from the condensate tank. One part of it was - had about two cups of water in it and they couldn't figure out where the water had gone although it didn't seem to be going out the proper way. After checking it out here they decided that there really wasn't any problem and they told them to go on with the procedure and to complete it. We expect to hear from the crew again in approximately 15 minutes and 15 seconds at the Vanguard tracking ship. And until that time should be no major problems. One thing we made more convenient now is we have a more complete report on the flare that was missed earlier this morning by the crew. It turns out that the peak that was a 2 bright rather than a 1 bright flare, 2 bright flare with an area of approximately 7 square degrees. That's roughly twice the size of the - an area of the optical brightness that we saw on the flare that was caught yesterday by the crew - was in active region 31. The reason it wasn't caught by the crew today is that the crew is on the dark side of the Earth. It was out of sight of the Sun at the time it was most active. The flare began at 14:18 Greenwich mean time, or at 9:18 Central daylight time. It reached it's maximum at 9:26. At it's maximum it - at it's maximum it was a 2 bright M3. That is to say it had a approximate area of 7 square degrees and it was at bright optical flare. It's X-radiation was M3, which means that it gave off 300ths of an erg per centimeter squared per second in X-radiation. That's almost as high as the one yesterday, but not quite in its X-radiation. The X-radiation going yesterday was four-hundredths of an erg per centimeter squared per second. So this is a slightly smaller magnetic power but larger in optical area. This appeared in visual light to be a larger flare than the one we say yesterday. It was however not caught by the ATM

experiment because it was out of sight until the flare began subsiding. We expect to hear from the crew again at 13 minutes and 24 seconds. This is Skylab Control.

END OF TAPE

SL-II MC-1087/1
Time: 13:41 CDT, [illegible] 18:41 GMT
6/16/73

PAO Skylab Control at 18 hours 41 minutes 44 seconds Greenwich mean time. We had no signal - no signal of - acquisition of signal at Vanguard and as a result we did take it on the tape recorders and we'll now play back approximately 4 minutes of air-to-ground that was picked up over the Vanguard station. Here is the air-to-ground from Vanguard.

CC Data tape recorder again, here at Vanguard and I got a couple words for the CDR on the condensate tank.

CDR Be right with you.

CC Okay. No problem. We've got a 8 minute pass, Pete.

CDR Go ahead.

CC Okay, Pete. We're a little bit confused as to what the configuration is, but since you do an ATM and the other guys are doing biomed, we figure if we can stabilize the situation for the next hour or so, we're going to have an hour LOS and then by that time, you should have a little more time to talk and you can lead us through the procedures and tell us exactly at what steps you had the problem. For now, as we understand the configuration, you got the holding tank disconnected from the little tank and the holding tank is doing its thing, dumping. The little tank has lost vacuum. So what we suggest is going to the systems checklist page 2-40, and under the procedure listed for airlock module condensate tank dump step 3, it's 6 or 8 steps there that hopefully will reachieve the vacuum on the - on the condensate - airlock module condensate tank. You can go ahead and do that procedure and get back to your ATM work and we can talk about it again next pass. Over.

CDR Okay. You got it right.

CC Okay. Real good. Why don't we do that then and we'll just talk to you about it later.

CDR Okay.

PLT The big question is, Dick, what happened to the water that was in the condensate tank, when all I'm supposed to be doing is hooking water into it?

CC Roger. That's the big question and we haven't figured that out yet.

PLT Okay.

SC (garble)

CC PLT, Houston. I didn't copy your message

SC (garble)

CC CDR, Houston. Sorry, I guess our ears are bad, but the comm is a little bit ratty here on the down link and I still did not copy.

SL-II MC-1087/2
Time: 13:41 CDT, 23:18:41 GMT
6/16/73

CDR Okay. I've been running the secondary heater and we have this intermittent problem with that. Now I show no temperature at all on secondary heaters - been running for 30 minutes. You want me to go ahead and dump it or do you want me to do it on primary heater until I get some temp reading?

CC That's affirmative. We'd like you to switch to the primary heater.

CDR Okay.

CC Skylab, Houston. We're about 15 seconds from LOS. We're going to see you at Hawaii at 19:36.

SC Roger.

PAO Skylab Control, that concludes the air-to-ground recorded over the Vanguard tracking station. We will not have another acquisition of signal for approximately 50 minutes and a half. At that time we will receive signal from Hawaian, from the Hawaian tracking station. We expect a change-of-shift briefing at the request of newsmen for approximately 45 minutes after the next hour that's at 2:45, quarter to 3, we should have a change-of-shift briefing with Charles Lewis, the off-going Flight Director. The on-coming Flight Director is Donald Puddy. There is presently a handover taking place here in mission control, but we do expect a change-of-shift briefing at 2:45. This is Skylab Control at 46 minutes and 33 seconds after the hour.

END OF TAPE

PAO Skylab Control; 19 hours 35 minutes. We have acquisition of signal at Hawaii. We'll remain live for air to ground.

CC Skylab, Houston. AOS 6 minutes.

SC Roger, Bill. Where are we?

CC You're over Hawaii, and we have a question for you here. Did you disconnect from the holding tank or at panel 393 on the hose?

SC Per the checklist at (garble).

CC Copy.

SC And we tried to dump the condensate tank twice. It just won't hold a vacuum is all, Bill. It didn't.

CC Yes, we copy. We're thinking again now.

SC Houston, I got another question for you on that dump business.

CC Go, PLT.

PLT Okay, the holding tank is apparently empty. The stunt finder finds the bellows about 1 inch from the inlet side into the tank. The tank pressure during the last dump sequence - we had to keep fighting it, by the way, to keep from exceeding 0.09 in the waste tank, and we never knew about that pressure restriction until we got it (garble). Then we were cycling the dump valve off and on. The bellows is in the end. During the last sequence, the waste bag pressure never got above about 0.082. It is now dropping off to about - it's on its way to 0.075. However, in accordance with the checklist, once again we are waiting for a water dump pressure to come off the (garble) at over 2. It seems to me it should have by now. Have you got any good soothing (garble) words for us on that?

CC PLT, we're working on him at the moment.

CC Skylab, we're going LOS here in approximately 25 seconds. We would like for you to continue on page 2-37, step 5 SWS systems checklist. We'll see you again at Vanguard at 20:07.

SC Okay.

PAO Skylab Control at 19 hours 44 minutes and 04 seconds Greenwich mean time. We have lost signal at the Hawaiian Tracking Station. That final instruction given up by the spacecraft communicator was to follow step 5 in the SWS checklist. Now that's a Skylab workshop system checklist. And that step 5 is condensate holding tank dump terminate, which means that they believe that they have successfully dumped all of the water out of the condensate tank into the general waste tank. And since that is terminated, they instructed the crew to go on as if it were finished. The crew reported that the bladder had successfully gone to the opposite end of the tank, which

would indicate that there's no water left in it. So they believe that they have now solved whatever problem existed, and they are trying to look into why it gave them the readings it did give them. Off-going Flight Director Charles Lewis has just returned from a short meeting, and he should be on his way over to Mission Control in a few minutes - I'm sorry, over to building 1 in a few minutes, and this is Skylab Control at 45 minutes after the hour.

END OF TAPE

SL-II MC-1089/1
Time: 14:52 CDT, 23:19:52 GMT
6/16/73

PAO Skylab Control at 19 hours 52 minutes 28 seconds Greenwich mean time. Off-going Flight Director Charles Lewis has left Mission Control and is enroute to building 1 for a change-of-shift briefing that should begin in approximately 3 to 5 minutes. This is Skylab Control at 52 minutes 45 seconds after the hour.

END OF TAPE

SL-II MC1090/1
Time: 15:19 CDT, 23:20:19 GMT
6/16/73

PAO Skylab Control, at 20 hours 19 minutes 3 seconds Greenwich mean time. At this time we will rerun - At this time we will rerun the Vanguard site. We did take this on tape, and we'll play back the air-to-ground from Vanguard. Immediately there following you will hear the Ascension air-to-ground. This is a replay of Vanguard.

CC Skylab, Houston. AOS 10 minutes.

SPT Houston, SPT.

CC Go, SPT.

SPT Okay, the procedure for dumping the holding tank requires the use of the minus-Z SAL vaccum port - conduct the pressure from the gas side of the tank. SO73 is in that SAL, and my question is, can we go ahead and dump the gas on that port or will that contaminate the experiment?

CC Stand by, we'll try to get you an answer.

PLT Hey, Houston, for information, M552 has been completed and the terminate pressure of the checklist has been completed.

CC We copy.

PLT Houston?

CC Go, Skylab.

PLT Okay, we are - Pete is ready to do rod extend. If there's any concern about getting through that airlock we are willing for a branch which will be explained later, to retract SO73 completely, take it out of the airlock, vent the condensate tank, and reinstall SO73 and go to a (garble) configuration on it.

CC Stand by half, we're looking hard at it.

PLT Okay.

CC PLT, Houston.

PLT Go ahead.

CC We would like for you to extend the 7 SO73 rods with the trunnion angle zero and then dump. That's dump --

PLT Okay. All right, we got it. Thank you.

CC Skylab, Houston. We're going LOS. We will have you again at Ascension at 20:22.

PLT Roger.

CC Skylab, Houston. AOS for 7 minutes.

CC - OS for 7 minutes.

SC Roger.

CC Skylab, it appears that you have leaks at panel 393 and on the holding tank disconnects. That's the quick disconnects.

PLT Well, then why has the DELTA-P on the

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condensate tank stayed so good for the last 20 days or so? We had it plugged in.

CC Paul, it's thought that they're only leaking when they're disconnected. And we think the same thing happened during the EVA when they were disconnected.

PLT Okay. That's a whole new set of QD's we got leaking now.

CC That is affirm.

END OF TAPE

CC Skylab, there isn't much in the way of news, but there's 2 or 3 items, if it doesn't interrupt anything you're doing.

PLT Go right ahead, we're listening, we can all hear it.

CC Now that I look at it, there's even less. You can get fish with your drinking water, it says, in Mexicali. They had a heavy buildup of fish that burst the filter on the local water purification and they're coming out the taps.

SC Okay.

CC Now let's see if we can find something significant. Says Houston is still number 3 in the race, they're 4-1/2 games out.

SC The Cubs, the Cubs.

CC Yeah, that's what I'm looking at. They're doing pretty well, it looks like. Stand by.

CC Okay. The Cubs appear to be leading the race at 3-1/2 games. Gary Player - -

CC Say again?

SC Go ahead.

CC Gary Player is leading on the Oakmont course. The astronomy satellite for radio astronomy that was launched earlier has gone into orbit around the Moon, apparently operating normally. The other items have to do with the energy crisis and the EPA has laid on some rather strict requirements which Texas is going to contest. It would involve strict gasoline rationing and conversion of cars prior to 68 to post 68 standards. No new parking lots built, and an increase in mass transit.

SC Good.

CC And we're going LOS here in about 20 seconds. We'll have you - we'll have you again, at Vanguard at 21:44.

SC Okay. Thanks a lot.

CC Yeah, that medical conference of course, will be coming up on your next pass.

SC Roger.

PAO Skylab Control at 20 hours 30 minutes 53 seconds Greenwich mean time. We have lost signal now at the Ascension tracking station. We heard the spacecraft communicator, William Thornton, indicate that we would not be speaking to the crew again, probably, until the next Vanguard pass. There is a pass 35 minutes from now, at the Guam tracking station. That pass is reserved for a private medical conversation. It may be, however, that if there is time left over, as there was yesterday, that time maybe turned back over to the Flight Controllers for direct contact

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at Guam. So normally we would not expect to hear from them at the Guam tracking station the next site, but we may hear shortly thereafter at Vanguard. This is Skylab Control at 31 minutes 40 seconds after the hour.

END OF TAPE

PAO Skylab Control at 21 hours 5 minutes
3 seconds Greenwich mean time. We have data from the
racking station at Guam, just having come over the horizon
t Guam. We expect a private medical conference to be taking
lace at the Guam station, and of course we do not monitor that
onversation. We will receive a report later and will read
t up to you as soon as it's available. Should part of this
ime become available for air-to-ground with the Flight
ontrollers, we will have that live, so we will remain live
n the event that there is any air-to-ground over the Guam
racking station.

PAO Air-ground is back to normal, this is
kylab Control.

CC AOS 2 minutes.

CDR Hi there, where's the next one and I'll
ive you the evening status report?

CC Pete, we'll be coming up on Vanguard here -
1:44.

CDR Okay. 2, 1, 4, 4, very good. See you
here.

CC Roger.

CDR I can give you the food. The CDR had
verything but his two butter cookies. The SPT had every-
hing. The PLT ate, heavens he ate everything, his optional
alt was 5.5. And the CDR's was 2.0.

CC We copy.

SC Quick rundown on day 157 photo log, 16
illimeter, housekeeping 16, ETM 516 Charlie India 1296 Charlie-
ndia 05, housekeeping (garble) 516 Charlie India 1396 Charlie-
ndia 10. S073 extension M151 Charlie India 0618 Charlie
ndia 03. 35 millimeter Charlie India 3103, Charlie India 3051,
'128 was completed and it's loaded in drawer H and it's gray
ape all messed up because it failed to rewind and we had to
ake it out to (garble). The VS06, 103, drawer A configuration
n Alfa 1, 02 Charlie India 1296 Charlie India 0582, 03 Charlie
India 0618 Charlie India 03, A306 Charlie India 1396, Charlie
India 10A405, nothing in the supply, no percent, Charlie India
11 floating 07 Charlie India 0966, Mike Tango 03. That's it.

CC You made it. We're 1 second to LOS it
says here, Pete. We'll see you at Vanguard.

CDR Okay. N552 complete today.

CC Copy.

CC Unless there's some reason, we show S073
in low gain. We'd like that in medium gain.

CDR I haven't started to run it yet, and I
was going to start in, and look at the, the thing there, under
the program starts and request for the instructions.

CC We copy.

SL-II MC-1092/2
Time: 16:05 CDT, 23:21:05 GMT
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PAO Skylab Control at 21 hourr 13 minutes 43 seconds Greenwich mean time. We have lost signal at the Guam tracking station. As we indicated, there was time available after the brief conference between the surgeon, Flight Surgeon, and the crew for air-to-ground and you heard spacecraft communicator William Thornton talking to the crew. The commander again is eating extra butter cookies as part of his diet, otherwise the diets were very similar to the usual reports. That's their status report for the day on the diet. We expect to hear from the crew again at the next pass at Vanguard in 29 minutes and 45 seconds. Time now is 14 minutes and 23 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-II MC1093/1
Time: 16:43 CDT, 21:21:43 GMT
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PAO Skylab Control at 21 hours 43 minutes and 18 seconds Greenwich mean time. At the present time we are about to have acquisition of signal at the Vanguard tracking ship. As it - as the spacecraft begins it's 179th revolution about the Earth. We will stay live for air-to-ground from Vanguard.

CC Skylab, Houston. AOS for 11 minutes at Vanguard.

SPT Bless your heart.

CC SPT, Houston.

SPT Go ahead.

CC We want you to inhibit dump prior to 21:46. The angles are inner gimbal; (garble) the star tracker angles, are inner gimbal plus 0319, outer gimbal plus 2023. And we want the dump enabled by 21:54.

SPT That's if I get a star, or what?

CC Joe, that last one was anytime after - after 21:54.

SPT Is that contingent on my getting a star only, or is that regardless?

CC Whether you get a star or not, Joe, ENABLE.

SPT I don't believe it.

CC Okay, Joe.

CC Joe, was that the action or the angles?

SPT They're fine. Talk to you in a minute,

SPT Okay, Houston. Stand by 1, I'm waiting for orbital plane (garble) to get updated.

CC Copy.

SPT Or do you people have that inhibited. We've got a star.

CC We copy. We have it inhibited, Joe.

SPT We were cut out.

CC We have it inhibited.

SPT Shall I ENABLE it?

CC That's affirm. ENABLE, please.

SPT (garble)

SPT Okay, we got a 6.6 here, now can I ENABLE momentum dump?

CC Negative. Do not ENABLE momentum dump. Do not ENABLE momentum dump.

SPT Okay, then, why were you in such a hurry for me to get a star?

SPT Houston, I assume you havent inhibit momentum dump because of the bad orbital plane error. Now that we've got a good one, I'm curious why you don't want to reenable it.

CC Stand by half.
SC Say again.
CC We took a dump sample that had wrong data, Joe, and we were in a hurry to get it inhibited. There was no great urgency on the star.
SPT Okay, I - All right.
SPT We could inhibit and then reenable CMC control (garble) ATM like that with G&C (garble).
CC Stand by half, Joe.
SPT Say again, Houston.
CC I'll be with you in a second, Joe.
SPT Well, never mind, Houston.
CC Sorry, Joe.
CC SPT, possibly this will help a bit, during the med conference we inhibited the outer gimbal angle. The star tracker had lost the star and we got a bad data sample. This could have been corrected, they could have forced the contingency but the procedure that was passed up was considered to be the optimum under the circumstances.
SPT Okay.

END OF TAPE

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	CC	CDR, Houston.
	SC	He's tied up, Houston.
	SC	May I pass a message?
	CC	Yes, the f/73 is picking up too much light. We want the field of view to position 1.
	SC	Okay.
	CC	And we'll be LOS in 30 seconds here. Ascension at 21:57.
	PAO	Skylab Control at 21 hours 55 minutes 39 seconds Greenwich mean time. We have lost signal at the Vanguard Tracking Station but are approximately 1 minute and 56 seconds from acquisition of signal at Ascension on rev 180. That's a correction from last time. We were ending rev 179 and beginning rev 1 - I'm sorry, rev 480, ending rev 479. We're now on 480, about a minute and 40 seconds from acquisition of signal. And we expect to hear additional conversation at this pass. We will have a number of station contacts here in a row, beginning with Ascension. Ascension, Canary Islands, and Madrid are all on rev 480. So we will remain live for air-to-ground.
	CC	Skylab, Houston. AOS for 15 minutes.
	SC	Roger.

END OF TAPE

SL-II MC-1096/1
Time: 17:38 CDT 23:22:38 GMT
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PAO Skylab Control at 22 hours 38 minutes 43 seconds Greenwich mean time. At the present time, we're a little over 2-1/2 minutes from acquisition of signal at the Guam tracking site. This is a nearly overhead pass, a 48 degree pass. That's at a very high angle at Guam. And we expect to have acquisition of signal for something over 10 minutes. We have the surgeon's report from the private medical conference held at the Guam tracking station during the last revolution. Report is signed by Dr. Buchanan for Dr. Hawkins is this: "The crew of Skylab II is well and happy. They report that they are feeling "super" but could "sure use haircuts." This report is being relayed to the Tico." End of report. The Tico of course is the United States ship Ticonderoga, the ship that is steaming from San Diego to the recovery area for Friday's recovery. To repeat that message, the crew of Skylab II is well and happy. They report that they are feeling super but could sure use haircuts. That report is being relayed to the Ticonderoga where they will no doubt have haircuts, when they return to Earth. We're approximately 1 minute and 40 seconds from acquisition of signal at the Guam tracking station. We will remain live for air to ground from Guam.

CC Skylab Houston. AOS, 10 minutes, Guam.

PLT Roger Houston. We have one question on tomorrow's flight plan. Two questions. What is the T027 opposite 19:00, and what time is trim burn?

CC Stand by.

CC PLT Houston.

PLT Go ahead.

CC T027 is simply the sample array and it is not time critical. And the trim burn is 08:59:23.

CC That last one is listed on the details.

PLT Yeah. we're looking.

CC Paul, they aren't up yet, they are still to come up, the details.

PLT Okay.

CC PLT, we have one more message for you, when it's convenient.

PLT Go ahead.

CC We would like for you or the CDR to change the T027/S073 shaft upper limit to 234. Return the field of view to 0. This should be accomplished prior to 23:15. This is because the structural blockage and it is causing premature cut off.

CDR 234 to shaft L and FOV to zero.

CC That's affirm.

CDR I'm telling you that's done. We did it.